










*US Department of Transportation*



# ***A Look at the FAA***

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***Web Site:  
[www.faa.gov](http://www.faa.gov)***

## INTRODUCTION

*The Federal Aviation Administration (FAA) is a modal agency under the Department of Transportation.* The FAA is the element of the U.S. government with primary responsibility for the safety of civil aviation. Almost 50,000 employees are dedicated to improving the safety, security, and efficiency of aviation and commercial space transportation in a manner compatible with the environment. The FAA leads, influences, guides, and encourages more than it actually operates and regulates. Safe, secure, efficient aerospace transportation requires close cooperation among all parts of aerospace and the transportation community, other Federal agencies, and the traveling and shipping public.

The FAA is headed by an Administrator who is assisted by a Deputy Administrator. Reporting to the Administrator are Associate Administrators who direct the line-of-business organizations that carry out the agency's principle functions. Also reporting to the Administrator are the Chief Counsel and Assistant Administrators responsible for other key programs.

The FAA's field organization includes nine geographical regions (New England Region, Eastern Region, Southern Region, Great Lakes Region, Central Region, Southwest Region, Northwest Mountain Region, Western Pacific Region, and Alaska Region) and two major centers, the Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma, and the William J. Hughes Technical Center in Atlantic City, New Jersey.

The FAA's major functions include:

- \* Regulating civil aviation to promote safety and fulfill the requirements of national defense.
- \* Encouraging and developing civil aeronautics, including new aviation technology.
- \* Developing and operating a common system of air traffic control and navigation for both civil and military aircraft.
- \* Research and development with respect to the National Airspace System and civil aeronautics.
- \* Developing and implementing programs to

control aircraft noise and other environmental effects of civil aviation.

- \* Regulating U.S. commercial space transportation.

## FUNCTION OVERVIEW

### Safety Regulation (Safety From Start to Finish)

Safety in the air depends on many interrelated efforts that are often invisible to the traveler. The responsibility for preventing accidents is a shared partnership among government, industry and labor, and the individual traveler as well. While most flyers think of the FAA as the organization that provides air traffic control, it is far more than that. The FAA oversees the safety of planes and the credentials and competency of pilots and mechanics. It oversees aviation security. And, it conducts multiple safety and security-related research programs. Its scientists investigate the human and mechanical factors that affect safety, seeking new ways to prevent accidents or lessen their effects.

Most importantly, the FAA provides mandatory safety rules, conducts safety inspections and sets high standards for civil aviation. The FAA also works with the flying community to help and encourage operations at levels even higher than the FAA's already stringent standards.

**Aircraft Design Certification.** The US aircraft industry is a world leader. The FAA works closely with aircraft manufacturers, examining plans for new planes as they go on the drawing board or on the computer screen. That provides two sets of safety eyes looking at the design, making sure the highest level of safety is built in right from the start. Designs are based on the concept that the failure of one component, or a combination of failures that could reasonably be foreseen, should not cause an accident. Once a design has been thoroughly examined and put through demanding tests, and the first model has completed a grueling series of flight evaluations, the model is **certificated** for production by the FAA. The certificate means that a new model meets safety regulations. As each subsequent model is produced, it is also examined by the FAA and given its own certificate once it is ready for commercial service. Foreign-built aircraft flying

to or in the US must meet the same standards as US manufacturers. The FAA continues to monitor aircraft in service.

**Cockpit Crew.** Pilots play a unique role in maintaining safety. Only the pilot can decide whether it is safe to takeoff or land, even though a controller may have issued clearance for the actions. The FAA sets standards for pilot training, health, experience, and qualifications. Airline pilots must pass special examinations and flight tests, and those serving as captains are required to possess many hundreds of hours of additional flying time. Every 6 months pilots must have a medical checkup. Their flying skills are tested on a regular basis. The FAA also regulates the hours that airline pilots may work and conducts a continual review to guarantee their high performance.

**Flight Attendants.** Flight attendants brief passengers on safety procedures and assist in the event of an emergency. The FAA regulates cabin safety and training and duty hours of flight attendants. Travelers can contribute to their own safety by listening to flight attendants' instructions and by keeping seat belts fastened during all phases of flight.

Seat belt use is important to safety since turbulence can occur without warning. Turbulence is air movement that normally cannot be seen and often occurs unexpectedly. In non-fatal accidents, in-flight turbulence is the leading cause of injuries to passengers and flight attendants. Each year, approximately 58 passenger in the US are injured by turbulence while not wearing a seat belt. **See the FAA web site for more turbulence facts.**

**Air Carriers.** Airlines hire and train the employees who dispatch, fly, and maintain their aircraft. The companies conduct comprehensive safety programs that include systematic self-inspections and flight checks. The FAA mandates a wide range of operating procedures. Several thousand FAA inspectors work to ensure that these requirements are met, both by reviewing records and by direct hands-on inspections of aircraft and maintenance facilities, and by observing operations. FAA inspectors routinely have access to an airline's maintenance computers and can see on a real-time basis what kinds of maintenance problems are occurring across an airline's fleet and how those

problems are being dealt with. If carriers contract out their training or maintenance, they are still responsible to ensure that this work meets required standards. An airline's FAA operating certificate is proof that the company passes a careful and continuous review.

As a sign of the FAA's commitment to the highest levels of safety, the FAA now requires that all planes in scheduled commercial service with at least 10 seats meet the same rigid safety standards to which the large jets used by the major airlines are held. That change effectively brings planes routinely used by commuter airlines to the same safety standards as the larger aircraft.

The FAA also evaluates foreign governments' oversight of their airlines serving US airports. These results are published in FAA press releases so that the public can know which countries follow international safety standards.

**Maintenance Personnel.** When a plane goes into commercial service, it must be maintained to exacting standards to ensure it remains safe, or **airworthy** in aviation terms. That job falls to the airline mechanics either at the airlines or at repair stations. Airline technicians inspect each aircraft's exterior and important internal systems several times a day. In-depth checks and maintenance are conducted at intervals of days, weeks, or months in accordance with company policy and FAA and the manufacturers' requirements. The personnel who perform these programs must first earn an FAA certificate by proving that they have the necessary knowledge and skills.

**Civil Aviation Security.** The FAA is engaged in a major upgrade of our nation's aviation security system, which is already a massive effort that includes many aspects invisible to the public. At the FAA's Technical Center, scientists apply the latest technology to such tasks as hardening aircraft cargo compartments against explosions. One important result of this research program has been the certification of the CTX-5000 explosives detection system. With the assistance of Congress and the VP's Commission on Aviation Safety and Security, the FAA is buying 54 of the CTX devices and deploying them at the nation's busiest airports. Behind the scenes, FAA air marshals, plain-clothes officers travel the airways to prevent

criminal actions. The FAA works closely with US intelligence agencies to monitor the terrorist threat to our airlines, both at home and abroad. If a danger is perceived, the agency can and does order heightened precautions.

Although the FAA sets the rules and oversees the various aspects of security, countering the security threat is a shared responsibility. Airports are responsible for maintaining a secure ground environment and generally providing law enforcement support. Airlines employ screening personnel who check passengers and their baggage for weapons or other dangerous items. FAA monitors the screeners' work, and is preparing a certification program for this profession. Another airline responsibility is a profiling system that identifies certain passengers for added attention. The FAA is currently taking steps to automate this long-standing system for greater speed and efficiency. The contributions of local police include handling dog teams able to find hidden explosives. The FAA trains and certifies the dogs and now provides additional funding with the goal of locating a team at major US airports.

**Airports.** Airport authorities operate and maintain terminal buildings, runways, and related equipment such as lighting and signs. They hire and train firefighters and rescue crews and are responsible for safe storage of fuel, wildlife management, and deciding when a runway is closed due to surface weather conditions. The FAA's safety certification program covers airports served by airliners with over 29 passenger seats and will be extended to all those served by airliners with as few as 10 seats.

**Cooperative Programs.** Aviation companies, associations, and labor unions constantly exchange ideas on safety issues. The FAA encourages this practice by targeting specific topics and sponsoring seminars or conferences. The agency is currently working with other organizations to establish a network that will support the collection and analysis of safety data on a global basis. The National Aeronautics and Space Administration (NASA) and the FAA are also developing a program that turns digital data gathered by aircraft flight recorders into easily understood information that will help prevent mishaps before they occur. NASA also operates a program under which aviation industry employees may report safety violations without fear

of reprisal. In the event of accidents, the National Transportation Safety Board investigates, determines the probable cause, and makes recommendations for improvements.

#### **Airspace and Air Traffic Management**

The safe and efficient utilization of the navigable airspace is a primary objective of the FAA. The agency operates a network of airport towers, air route traffic control centers, and flight service stations. It develops air traffic rules, allocates the use of airspace, and provides for the security control of air traffic to meet national defense requirements.

#### **Air Navigation Facilities**

The FAA is responsible for the construction or installation of visual and electronic aids to air navigation, and for the maintenance, operation and quality assurance of these facilities. Other systems maintained in support of air navigation and air traffic control include voice/data communications equipment, radar facilities, computer systems, and visual display equipment at flight service stations.

#### **Civil Aviation Abroad**

As mandated by legislation, the FAA promotes aviation safety and encourages civil aviation abroad. Activities include exchanging aeronautical information with foreign authorities; certifying foreign repair shops, airmen, and mechanics; providing technical assistance and training; negotiating bilateral airworthiness agreements; and providing technical representation at international conferences.

#### **Commercial Space Transportation**

The agency regulates and encourages the US commercial space transportation industry. It licenses commercial space launch facilities and private sector launching of space payloads on expendable launch vehicles.

#### **Research, Engineering, and Development**

The FAA engages in research, engineering, and development aimed at providing the systems and procedures needed for a safe and efficient system of air navigation and air traffic control. The agency performs an aeromedical research function and supports development of improved aircraft, engines, and equipment. It also conducts tests and evaluations of specified items such as aviation systems, devices, materials, and procedures.

#### Other Programs

The FAA provides a system for registering aircraft and recording documents affecting title or interest in aircraft and their components. Among other activities, the agency administers an aviation insurance program; develops specifications for aeronautical charts; and publishes information on airways and airport services as well as on technical subjects relating to aeronautics.

## HOW THE FAA HELPS YOUR FLIGHT ARRIVE SAFELY

Once you've cleared security and boarded your flight, it is time for the rest of the FAA to help get you safely to your destination. As the plane leaves the gate, its crew is already in radio contact with FAA air traffic controllers. These highly trained individuals watch from the airport tower, assisted by radar systems that penetrate fog, bad weather or darkness. They make certain that your plane stays out of the path of ground vehicles or other aircraft. As you taxi away from the gate headed for the end of the runway, this **ground controller**, watching the airport surface, is lining up departing planes on the taxiways leading to the end of the runway. At that point, your pilot is directed to begin talking with a **tower controller** who is clearing planes for takeoff and landing and, at the right moment, directing your pilot to take off and follow a predetermined flight plan.

When your plane leaves the ground, the tower transfers your plane to the guidance of a radar control facility responsible for monitoring flights in the immediate area of the airport. That controller directs your pilot as the plane continues to climb, then hands responsibility for monitoring the flight over to an **en route controller** at

what is known as an **en route center**. There are 21 en route centers around the country where controllers direct flights at high altitudes across long distances until the flight nears its destination.

While you're in the air, personnel at a national command center are monitoring automated displays that simultaneously track all airline flights. They watch to see if bad weather or airport problems may require holding planes to a pattern for a time or keeping flights from taking off for a while to prevent congestion.

When your plane nears the destination airport, the process is reversed, and your pilot receives guidance from an **approach controller** monitoring airspace near the airport. The landing is assisted by a **tower controller**, as well as by an instrument landing system that brings the aircraft safely to the ground even when visibility is limited. Finally, a **ground controller** begins talking with your pilot once he's turned off the runway and helps guide your flight to the proper gate at the terminal. **On average, controllers across the country handled three flight operations per second, 24 hours a day.**

Many remarkable electronic systems combine to make this system work efficiently around the clock. Over 240 aircraft tracking radar and 1,000 navigational radio beacons help to pinpoint the location of every flight. Each plane using airspace under the direct control of FAA personnel also carries its own special radio beacon that enables controllers to determine instantly the flight's identity, speed, altitude, and destination. Computers back up the controllers by flashing an alert if conflicts are predicted. Aloft, pilots are assisted by devices that warn them if they are too close to other aircraft or surface terrain. To avoid hazardous weather, they rely on airborne radar as well as information from a ground-based network of specialized radar and other instruments.

Skilled technicians maintain all this varied equipment to an exacting level of reliability. They are on duty or on call day and night, weekends and holidays, to repair any problems that arise. The FAA's airway systems equipment—totaling over 34,000 items—has an availability rate of 99.84 percent, and backup systems are ready to cover service interruptions. Through a vigorous program of research and development,

the FAA seeks constantly to improve air traffic control and related systems. The agency is steadily implementing the latest automation, data link, and satellite technology.

In time, the entire air traffic control system will shift from reliance on ground-based systems to one that uses satellites to position planes. This system will not only improve an already high level of safety but also allow for the more efficient use of the skies as the volume of air travel rises.

*The ultimate customers* of all aerospace are passengers and shippers. The FAA also views the transportation community as its customers and partners. That includes the B-747 mechanic and the helicopter pilot and nurse rushing an injured child to the hospital. Airlines, general aviation and commercial pilots, commercial space launch companies and site licensees, manufacturers, airports, and communities seeking noise relief are all customers and partners. So are surface transportation modes that link airports to communities.

Forces for change include increased public focus on safety and security; increasing demand for FAA and aerospace services; the need for flexibility for a wide variety of aircraft and routings; new technologies; an aging air traffic management system; and increasing globalization of aerospace and American travel. No single organization is completely responsible for aerospace. FAA leads and influences but does not perform most aerospace activities. The aerospace community must act as a team. The FAA, as a leader of this team, faces its own constraints. FAA culture often resists change. The FAA, like many public agencies, is caught in the dilemma of higher demand and expectations together with stable or decreasing resources. It needs both the support and the constructive criticism of its aerospace customers and partners to fulfill its role.

The National Aeronautics and Space Administration (NASA) has a strong aviation component in addition to its space component and adopts the same safety goal. The Department of Defense (DoD) must plan for its own air traffic control system and for coordinating its system and equipping its aircraft to operate in the civilian National Airspace System (NAS). DoD also has the U.S. Space Command, which has its

own long-range plan. Private aerospace organizations have plans as well.

Just as aviation and commercial space transportation are parts of the transportation system, so is the FAA a part of DOT. The safety, security, and system efficiency goals of the FAA support the DOT goals of safety, national security, mobility, economic growth and trade, and human and natural environment. FAA participates with other modes of transportation as well—sharing research in such areas as flammability, toxicity, and cabin integrity; sharing and co-developing systems such as the Global Positioning System (GPS) of satellites; and linking transportation modes together, particularly linking airports to metropolitan transportation. The key is to ensure that all these plans and programs coordinate with each other and with the overarching direction of the DOT

## HISTORY OF THE FAA

**Origins.** The Air Commerce Act of May 20, 1926, was the cornerstone of the Federal government's regulation of civil aviation. This landmark legislation was passed at the urging of the aviation industry, whose leaders believed the airplane could not reach its full commercial potential without Federal action to improve and maintain safety standards. The Act charged the Secretary of Commerce with fostering air commerce, issuing and enforcing air traffic rules, licensing pilots, certificating aircraft, establishing airways, and operating and maintaining aids to air navigation. A new Aeronautics Branch of the Department of Commerce assumed primary responsibility for aviation oversight. The first head of the Branch was William P. MacCracken, Jr., who played a key part in convincing Congress of the need for this new governmental role. **Early Responsibilities.** In fulfilling its civil aviation responsibilities, the Department of Commerce initially concentrated on such functions as safety rulemaking and the certification of pilots and aircraft. It took over the building and operation of the nation's system of lighted airways, a task begun by the Post Office Department. The Department of Commerce improved aeronautical radio communications, and introduced radio beacons as an aid to air navigation. In 1934, the Aeronautics Branch was renamed the Bureau of Air Commerce to reflect its enhanced status within the Department. As com-

mercial flying increased, the Bureau encouraged a group of airlines to establish the first three centers for providing air traffic control (ATC) along the airways. In 1936, the Bureau took over the centers and began to expand the ATC system. The pioneer controllers used maps, blackboards, and mental calculations to ensure the separation of aircraft traveling along designated routes between cities. The Civil Aeronautics Act. In 1938, the Civil Aeronautics Act transferred the Federal civil aviation responsibilities from the Commerce Department to a new independent agency, the Civil Aeronautics Authority. The legislation expanded the government's role by giving the Authority the power to regulate air fares and determine the routes air carriers would serve.

In 1940, President Franklin Roosevelt split the Authority into two agencies, the Civil Aeronautics Administration (CAA) and the Civil Aeronautics Board (CAB). CAA was responsible for ATC, airman and aircraft certification, safety enforcement, and airway development. CAB was entrusted with safety rulemaking, accident investigation, and economic regulation of airlines. Both organizations were part of the Department of Commerce. Unlike CAA, however, CAB functioned independently of the Secretary.

On the eve of America's entry into World War II, CAA began to extend its ATC responsibilities to takeoff and landing operations at airports. This expanded role eventually became permanent after the war. The application of radar to ATC helped controllers in their drive to keep abreast of the postwar boom in commercial air transportation. In 1946, meanwhile, Congress gave CAA the added task of administering the Federal-aid airport program, the first peacetime program of financial assistance aimed exclusively at promoting development of the nation's civil airports.

**The Birth of FAA.** The approaching introduction of jet airliners, and a series of midair collisions, spurred passage of the Federal Aviation Act of 1958. This legislation transferred CAA's functions to a new independent body, the Federal Aviation Agency, with broader authority to combat aviation hazards. The act moved safety rulemaking from CAB to the new FAA. It also gave FAA sole responsibility for developing and maintaining a common civil-military

system of air navigation and air traffic control, a responsibility CAA had shared with others. The scope of the Act owed much to the leadership of Elwood "Pete" Quesada, an Air Force general who had served as President Eisenhower's principle advisor on civil aeronautics. After becoming the first Administrator of the agency he had helped to create, Quesada mounted a vigorous campaign for improved airline safety.

**From Agency to Administration.** In 1966, Congress authorized the creation of a cabinet department that would combine major Federal transportation responsibilities. This new Department of Transportation (DOT) began full operations on April 1, 1967. On that day, FAA became one of several modal organizations within DOT and received a new name, Federal Aviation Administration. At the same time, CAB's accident investigation function was transferred to the new National Transportation Safety Board.

**Changing Duties.** Even before becoming part of DOT, FAA gradually assumed responsibilities not originally contemplated by the Federal Aviation Act. The hijacking epidemic of the 1960s involved the agency in the field of aviation security. In 1968, Congress vested in FAA's Administrator the power to prescribe aircraft noise standards. The Airport and Airway Development Act of 1970 placed the agency in charge of a new airport aid program funded by a special aviation trust fund. The same Act made FAA responsible for safety certification of airports served by air carriers.

**ATC Automation.** By the mid-1970s, FAA had achieved a semi-automated air traffic control system based on a marriage of radar and computer technology. By automating certain routine tasks, the system allowed controllers to concentrate more efficiently on the vital task of providing separation. Data appearing directly on the controllers' scopes provided the identity, altitude, and ground speed of aircraft carrying radar beacons. Despite its effectiveness, this system required enhancement to keep pace with the increased air traffic of the late 1970s. The increase was due in part to the competitive environment created by the Airline Deregulation Act of 1978. This law phased out CAB's economic regulation of the airlines, and CAB ceased to exist at the end of 1984.

To meet the challenge of traffic growth, FAA unveiled the National Airspace System (NAS) Plan in January 1982. The new plan called for more advanced systems for enroute and terminal ATC, modernized flight service stations, and improvements in ground-to-air surveillance and communication.

**The PATCO Strike**. While preparing the NAS Plan, FAA faced a strike by key members of its workforce. An earlier period of disharmony between management and the Professional Air Traffic Controllers Organization (PATCO) had culminated in a 1970 "sick-out" by 3,000 controllers. Although controllers subsequently gained additional wage and retirement benefits, another period of tension led to an illegal strike in August 1981. The government dismissed over 11,000 strike participants and decertified PATCO. By the spring of 1984, FAA had ended the last of the special restrictions imposed to keep the airspace system operating safely during the strike.

**Structural Changes**. FAA's organizational structure has continued to evolve since its creation. The agency's first Administrator favored a management system under which officials in Washington exercised direct control over programs in the field. In 1961, however, his successor began a decentralization process that transferred much authority to regional organizations. This pattern generally endured until a 1988 "straightlining" again charged managers at national headquarters with more direction of field activities. Another notable change occurred in 1987, when Washington National and Dulles International Airports passed from FAA's management to that of an authority representing multiple jurisdictions. (National had been opened by CAA in 1941, Dulles by FAA in 1962.)

In November 1994, a reorganization structured FAA along its six key lines of business to make better use of resources. A seventh line of business was added one year later when the Office of Commercial Space Transportation was transferred to FAA from the Secretary of Transportation. This addition gave FAA regulatory responsibilities concerning the launching of space payloads by the private sector. During 1996, reform legislation made further important changes that included increased flexibility for FAA regarding acquisition and personnel policies.

**Technology for the Future**. Continued ATC modernization under the NAS Plan included such steps as the implementation, completed in 1988, of Host Computer Systems able to accept new programs needed for the future. As the rapid evolution of aeronautics continued, FAA also addressed a wide variety of technical issues beyond the field of ATC. The Aviation Safety Research Act of 1988 mandated greater emphasis on long-range research planning and on study of such issues as aging aircraft structures and human factors affecting safety.

In February 1991, FAA replaced the NAS Plan with the more comprehensive Capital Investment Plan (CIP). The new plan outlined a program for further enhancement of the ATC system, including higher levels of automation as well as new radar, communications, and weather forecasting systems. Programs currently under way include the deployment of new Terminal Doppler Weather Radar systems able to warn pilots and controllers of meteorological hazards. FAA is placing a high priority on speeding the application of the Global Positioning System satellite technology to civil aeronautics. Other notable ongoing programs include progress toward the implementation of Free Flight, a concept aimed at increasing the efficiency of high-altitude operations.

## Administrators of the FAA

Elwood R. Quesada	11/1/58-1/20/61
Najeeb E. Halaby	3/3/61-7/1/65
William F. McKee	7/1/65-7/31/68
John H. Shaffer	3/24/69-3/14/73
Alexander P. Butterfield	3/14/73-3/31/75
John L. McLucas	11/24/75-4/1/77
Langhorne M. Bond	5/4/77-1/20/81
J. Lynn Helms	4/22/81-1/31/84
Donald D. Engen	4/10/84-7/2/87
T. Allan McArtor	7/22/87-2/17/89
James B. Busey	6/30/89-12/4/91
Thomas C. Richards	6/27/92-1/20/93
David R. Hinson	8/10/93-11/9/96
Jane F. Garvey	8/4/97-Present

Notes: On April 1, 1967, FAA's name changed from Federal Aviation Agency to Federal Aviation Administration. Effective date of Quesada's appointment. He took the oath of office on a recess appointment, November 5, 1958; superseded the Administrator of Civil Aeronautics, December 31,



1958; and was confirmed by Senate, March 11, 1959. The other tenure opening dates are the days on which the Administrators took the oath of office. McArtor, Busey, Richards, and Hinson later took the oath a second time in public ceremonies.

## Historical Publications

The following books are for sale by the Superintendent of Documents, U.S. Government Printing Office, POB 371954, Pittsburgh, PA 15250. (PH: 202-512-1800) These works are also available in the government documents section of many of the nation's university, state, and larger public libraries.

Reference chronology: FAA Historical Chronology: Civil Aviation and the Federal Government, 1926-1996 edited by Edmund Preston. Soft cover, \$29, Stock No. 050-007-01222-5. Describes key events in: the evolution of the aviation regulatory structure; the history of airlines and aircraft manufacturing; the development of air traffic control and air navigation; accidents and safety issues; and notable flights and aeronautical achievements. 375 pages.

Narrative history series:

Bonfires to Beacons: Federal Civil Aviation Policy Under the Air Commerce Act, 1926-1938 by Nick A. Komons. Hard cover, \$16.00, Stock No. 050-007-00419-2. Examines the background of the passage of the first Federal civil aviation regulatory statute, the subsequent evolution of Federal civil aviation policy, and the enactment of the Civil Aeronautics Act. 454 pages.

Turbulence Aloft: The Civil Aeronautics Administration Amid Wars and Rumors of Wars, 1938-1953 by John R. M. Wilson. Soft cover, \$7.50, Stock No. 050-007-00486-9. Deals with the first 14 years of the CAA, a period dominated by World War II, the Cold War, and the Korean conflict. 346 pages.

Takeoff at Mid-Century: Federal Civil Aviation Policy in the Eisenhower Years, 1953-1961 by Stuart I. Rochester. Soft cover, \$12.00, Stock No. 050-007-00355-2. A history of the Civil Aeronautics Administration during Eisenhower's two terms. The work also examines the events that led to the CAA's demise and the creation of the Federal Aviation Agency. 352 pages.

Safe, Separated, and Soaring: A History of Federal Civil Aviation Policy, 1961-1972 by Richard J. Kent, Jr. Soft cover, \$8.00, Stock No. 050-007-00566-1. An examination of the issues facing FAA between Kennedy's inauguration and the end of Nixon's first term, including airways modernization, labor unrest, the SST, hijacking, and the creation of the Department of Transportation. 422 pages.

Troubled Passage: The Federal Aviation Administration During the Nixon-Ford Term, 1973-1977 by Edmund Preston. Soft cover, \$9.00, Stock No. 050-007-00774-4. Describes a period in which FAA faced frequent changes of leadership as well as challenges concerning aviation safety, security, and the environment. 340 pages.

Historical monographs:

The Cutting Air Crash, by Nick A. Komons. Soft cover, \$4.00, Stock No. 050-007-00677-2. Describes and analyzes the political repercussions that followed the death of Senator Bronson Cutting of New Mexico in an air crash in 1935. 104 pages.

The Third Man: A History of the Airline Crew Complement Controversy, 1947-1981 by Nick A. Komons. Soft cover, \$5.50, Stock No. 050-007-00761-2. A historical study of the controversy within the aviation community over the number of crew members needed in the cockpits of large airliners. 162 pages.

## HOW SAFE IS FLYING?

**Very safe.** *Airline travel in the United States is the safest in the world*, and it has been getting safer and safer over the years. Massachusetts Institute of Technology statistician Arnold Barnett noted that the death risk per domestic jet flight was 1 in 2 million during the decade 1967-76. By contrast, he estimates the risk during the 1990's as only 1 in 8 million. Barnett's calculation of the death risk in the first seven years of the 90's (1990-1996), equates to having a person pick a flight at random every day for 21,000 years before being in a fatal accident. Using the 1996 fatal accident rate, statistically a passenger would have to fly around the clock for over 438 years before being involved in a fatal crash.

According to the National Safety Council, aviation (all forms) had a death rate of 0.3 per hundred thousand population in 1998, the most recent year for which the Council has published this calculation. The Council's latest fatality totals, for 1998, show 1 death in U.S. airline accidents, which was not a passenger fatality (a ground crew worker inadvertently walked into a propeller). By contrast, in 1998, 908 times as many people died in boat accidents and 794 times as many people died in accidents involving bicycles and tricycles. Over 4,000 persons died in swimming and other drowning-type accidents, and nearly 42,000--were killed in motor vehicle accidents in 1998 (which includes cars, vans, trucks, pedestrians, motorcycles, bicycles and other highway accidents).

The National Transportation Safety Board's aviation accident statistics report for 1999 shows 12 persons were killed in airline accidents (11 persons who died in AA accident in Little Rock and 1 ground crew worker struck by a propeller). This is an increase from 1998 when no "passenger" fatalities were reported. In 1999 there were 12 commuter airline fatalities, 38 air taxi fatalities, and 628 general aviation fatalities.

Although the airlines' safety record is impressive, the FAA and the industry are determined to improve it. This intensive vigilance means that airline passengers can be confident that they have chosen the safest way to travel.

Flying has grown safer and safer over the decades. The popularity of flying as a mode of transportation for all Americans continues to grow. Last year, some 600 million passengers flew more than 600 billion miles with the nation's air carriers, and the forecast is that by 2008 the number of passengers will approach 1 billion. The FAA is dedicated to making continued improvements in flying safety and to modernizing the nation's airspace system so that aviation can continue to grow safely.

# ACCIDENT FACTS

FATAL UNINTENTIONAL INJURIES 1998

LEADING CAUSES:	
Motor Vehicle: Passenger Cars/Trucks/Vans	32,000
Falls	16,600
Poisoning	8,400
Pedestrians	5,254
Drowning	4,100
Fire and Burns	3,700
Suffocation	3,200
Motorcycles	2,242
Marine	908
Firearms	900
Rail	831
Bicycles	794
Medium and Heavy Trucks	723
General Aviation (Small Aircraft)	621
All Other Highway	440
Air Taxi	45
Buses	27
Pipeline	18
Foreign/Unregistered Aircraft in accidents in US	16
Airlines (ground crew walked into a propeller)	1

Based on National Transportation Safety Board and  
National Safety Council Statistics for 1998

**AVIATION STATISTICS**  
**ACTIVE PILOTS AND NONPILOTS**

	1998		1997	
	Total	Women	Total	Women
<b>PILOT - TOTAL</b>	618,2980	35,762	616,340	35,531
Student	97,736	11,289	96,101	11,217
Private	247,226	14,152	247,602	14,257
Commercial	122,053	5,366	125,300	5,392
Airline Transport	134,612	3,848	130,858	3,572
Other (Includes helicopter, glider, and recreational pilot.)	16,671	1,107	16,479	1,093
<b>FLIGHT INSTRUCTOR</b>	79,171	4,926	78,102	4,763
<b>NONPILOT - TOTAL <sup>1</sup></b>	549,588	15,380	540,892	14,562
Mechanic	336,670	4,483	329,239	4,019
Repair Men/Women	52,909	1,940	51,643	1,861
Ground Instructor	70,334	4,904	69,336	4,758
Flight Engineer	63,700	1,841	62,544	1,725
Other (Includes flight navigators, parachute riggers and dispatchers.)	25,975	2,212	25,085	2,021

<sup>1</sup>Excludes non-pilots 70 years old or over in all certificate types except flight engineers and navigators.

## FAA SOUTHWEST REGION

The Southwest Region is made up of five states: Texas, Arkansas, Oklahoma, Louisiana, and New Mexico.

The regional headquarters for the Southwest Region is located at 2601 Meacham Boulevard, Fort Worth, Texas 76137-4298.

On-board staffing as of 12/31/99:

- ✈ 5,318 (78.5 percent are in air traffic services)

Air traffic facilities:

- ✈ 33 air traffic control towers (FAA employees)
- ✈ 24 Federal contract towers (contract employees)
- ✈ 3 en route air traffic control centers (Fort Worth, Houston, Albuquerque)
- ✈ 7 automated flight service stations

Major air carrier operating certificates:

- ✈ American, Continental, Southwest, & Legend Airlines

Airports

- ✈ 568 total
- ✈ (164 airports within a 40 mile radius of DFW Airport)

The Rotorcraft Directorate is located in the regional office. The Directorate has worldwide safety certification responsibility for all civil rotorcraft and powered-lift aircraft. The FAA-certified civil rotorcraft fleet is approximately 20,000 aircraft worldwide.